ABSTRACT

A STUDY ON EXUDATIVE ETIOLOGY OF PLEURAL EFFUSION IN CHRONIC KIDNEY DISEASE IN A TERTIARY CARE HOSPITAL

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INTRODUCTION

Chronic kidney disease (CKD) encompasses a spectrum of different pathophysiologic processes associated with abnormal renal function, and a progressive decline in glomerular filtration rate (GFR). Pleural effusion in such patients is a common diagnostic dilemma as it may arise from CKD itself or concomitant infections, pulmonary embolisms.

In tuberculosis (TB)-endemic countries, patients with exudative pleural effusion and prolonged low grade fever in the absence of any other localization are “presumed” to be of tubercular origin in “clinical perception” and empirically administered antituberculosistherapy.Management of TB raises issues of drug dosing and interactions, especially in renal transplant recipients.

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The presence of unilateral effusion suggests a diagnosis other than heart failure, like tuberculosis or parapneumonic or atelectasis. The reduced humoral and cellular immunity, in addition to delay in diagnosis because of an attenuated clinical response, may explain the high rate of empyema.

AIM OF THE STUDY

To determine the demographic characteristics of patients with chronic kidney disease developing pleural effusion.

To determine the incidence of exudative and transudativeetiologies of pleural effusion in CKD patients.

To find the incidence of various exudative etiologies of pleural effusion in CKD patients".

STUDY POPULATION:

"This study is a hospital based Prospective study conducted between February2016 to July 2016, among Patients with Chronic Kidney disease and pleural effusion admitted in medical ward in OfGovernment RajajiHospital, Madurai".

INCLUSION CRITERIA:

1. Patients with pleural effusion and an estimated Glomerular filtration rate (GFR) <60ml/min/1.73m2 for 3 or more months, with or without kidney damage.
2. Age >13 yrs.

Exclusion criteria:

1. Age <13 yrs.
2. Patients with HIV.
3. Patients with bleeding disorders.

4. Severe co morbidities like recent MI.

5. Patients not willing for thoracocentesis.

Study Procedure: A clinically suspected case of pleural effusion in a chronic kidney disease patient is diagnosed by Chest X-ray and ultrasound chest. Detailed demographic and clinical parameters including age, sex, smoking history, clinical symptoms with duration (Cough, fever, sputum production, haemoptysis, chest pain, breathlessness) and clinical signs (Pallor, clubbing, enlarged neck nodes, pulse rate, blood pressure) and
systemic examination will be evaluated in all patients. In addition to chronic kidney disease, history for other co-morbid illness and habits like smoking and alcoholism will betaken.Co-morbid illnesses were defined as the presence of coexisting cardiac failure, ischemic heart disease, chronic lung disease (COPD), chronic liver disease, malignancies, neurological diseases and diabetes mellitus. All patients will be subjected to blood investigations including Complete blood count, ESR, Blood sugar, renal function tests and Liver function tests and urine routine examination. Sputum if present, for ZN stain, Gram's stain, culture and sensitivity.

Thoracocentesis will be performed using a 20 gauze needle syringe and the fluid is studied forthe gross appearance, total WBC count, differential count, RBC count, protein, glucose, ADA, LDH, cytology and culture. Pleural fluid is classified as exudative effusion or transudative effusion by applying LIGHTŚ Criteria.

RESULTS AND SUMMARY

In the present study the aetiology of pleural effusion was attributed to cardiac effusion in 13(31%) cases out of 40 cases, tuberculous pleural effusion in 12(28 %) cases, uremic pleural effusion in 6(14.2 %) cases, and in 4(11.4 %) cases parapneumonic effusion was present. Malignant pleural effusion was present in 4(9 %) cases, pleural effusion due to connective disorder was present in 1(2 %) cases.

Pleural involvement is common in patients with chronic renal insufficiency mainly stage 4 and 5. TB was the most common cause among these effusions.

Previously transudative effusions were thought to be more common in CKD, but our study result shows that the incidence of exudative effusion is more common than transudative effusions due to high incidence of tuberculosis,

CONCLUSION:

There is a high prevalence of exudative pleural effusions in our study. So, all patients with chronic kidney disease and pleural effusion, thorough search for exudative causes must be done.

KEYWORDS: CKD (Chronic Kidney Disease), Pleural effusion, Cardiac failure, Tuberculosis.